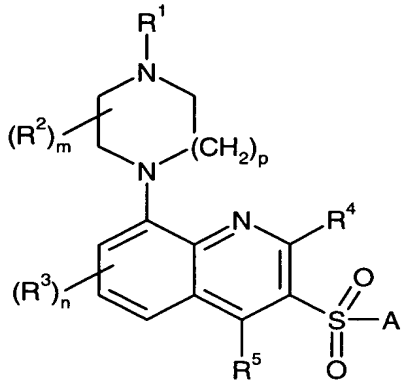
Amendments to the claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A compound of formula (I) or a pharmaceutically acceptable salt thereof:



(I)

wherein:
R^1 and R^2 independently represent hydrogen or C_{1-6} alkyl or R^1 is linked to R^2 to form a group $(CH_2)_2$, $(CH_2)_3$ or $(CH_2)_4$;
R^3, R^4 and R^5 independently represent hydrogen, halogen, cyano, $-CF_3$, $-CF_3O$, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkanoyl or a group $-CONR^6R^7$;
R^6 and R^7 independently represent hydrogen or C_{1-6} alkyl or together may be fused to form a 5- to 7- membered aromatic or non-aromatic heterocyclic ring optionally interrupted by an O or S atom;
m represents an integer from 1 to 4, such that when m is an integer greater than 1, two R^2 groups may instead be linked to form a group CH_2, $(CH_2)_2$ or $(CH_2)_3$;
n represents an integer from 1 to 3;
p represents 1 or 2;
A represents a group $-Ar^1$ or $-Ar^2Ar^3$;
Ar^1, Ar^2 and Ar^3 independently represent an aryl group or a heteroaryl group, both of which may be optionally substituted by one or more substituents which may be the same or different, and which are selected from the group consisting of halogen, hydroxy, cyano, nitro, trifluoromethyl, trifluoromethoxy, C_{1-6} alkyl, trifluoromethanesulfonyloxy, pentafluoroethyl, C_{1-6} alkoxy, arylC_{1-6} alkoxy, C_{1-6} alkylthio, C_{1-6} alkoxyC_{1-6} alkyl, C_{3-7} cycloalkylC_{1-6} alkoxy, C_{1-6} alkanoyl, C_{1-6} alkoxycarbonyl, C_{1-6} alkylsulfonyl, C_{1-6} alkylsulfinyl, C_{1-6} alkylsulfonyloxy, C_{1-6} alkylsulfonylC_{1-6} alkyl, arylsulfonyl, arylsulfonyloxy, arylsulfonylC_{1-6} alkyl, C_{1-6} alkylsulfonamido, C_{1-6} alkylamido, C_{1-6} alkylsulfonamidoC_{1-6} alkyl, C_{1-6} alkylamidoC_{1-6}

alkyl, arylsulfonamido, arylcarboxamido, arylsulfonamidoC_{1-6} alkyl, arylcarboxamidoC_{1-6} alkyl, aroyl, aroylC_{1-6} alkyl, arylC_{1-6} alkanoyl, or a group $CONR^8R^9$ or $SO_2NR^8R^9$, wherein R^8 and R^9 independently represent hydrogen or C_{1-6} alkyl or together may be fused to form a 5- to 7- membered aromatic or non-aromatic heterocyclic ring optionally interrupted by an O or S atom;
or solvates thereof.

2. (Original) A compound of formula (I) as defined in claim 1 wherein R^1 represents hydrogen, methyl, ethyl, isopropyl, isobutyl or 2,2-dimethylpropyl.

3. (Original) A compound of formula (I) as defined in claim 2 wherein R^1 represents hydrogen.

4. (Amended) A compound of formula (I) as defined in claim 1 [any one of claims 1 to 3] wherein R^2 represents hydrogen, methyl or is linked to R^1 to form a $(CH_2)_3$ group.

5. (Original) A compound of formula (I) as defined in claim 4 wherein R^2 represents hydrogen.

6. (Amended) A compound of formula (I) as defined in claim 1 [any one of claims 1 to 5] wherein R^3 represents hydrogen, methyl or halogen.

7. (Original) A compound of formula (I) as defined in claim 6 wherein R^3 represents hydrogen.

8. (Amended) A compound of formula (I) as defined in claim 1 [any one of claims 1 to 7] wherein R^4 and R^5 independently represent hydrogen or methyl.

9. (Original) A compound of formula (I) as defined in claim 8 wherein R^4 and R^5 both represent hydrogen.

10. (Amended) A compound of formula (I) as defined in claim 1 [any one of claims 1 to 9] wherein n represents 1.

11. (Amended) A compound of formula (I) as defined in claim 1 [any one of claims 1 to 10] wherein m and p independently represent 1 or 2.

12. (Original) A compound of formula (I) as defined in claim 11 wherein m and p both represent 1.

13. (Amended) A compound of formula (I) as defined in claim 1 [any one of claims 1 to 12] wherein A represents a group -Ar^1.

14. (Original) A compound of formula (I) as defined in claim 13 wherein Ar^1 represents phenyl optionally substituted with halogen, C_{1-6} alkyl, C_{1-6} alkoxy, trifluoromethyl or trifluoromethoxy.

15. (Amended) A compound of formula (I) as defined in claim 13 [or claim 14] wherein Ar^1 represents unsubstituted phenyl.

16. (Amended) A compound of formula (I) according to claim 1 selected from the group consisting of:

8-(4-Methyl-piperazin-1-yl)-3-phenylsulfonylquinoline;
3-(2-Chloro)phenylsulfonyl-8-piperazin-1-yl-quinoline;
3-(3-Chloro)phenylsulfonyl-8-piperazin-1-yl-quinoline;
3-(2-Fluoro)phenylsulfonyl-8-piperazin-1-yl-quinoline;
3-(4-Chloro)phenylsulfonyl-8-piperazin-1-yl-quinoline;
3-(3-Fluoro)phenylsulfonyl-8-piperazin-1-yl-quinoline;
3-(4-Bromo-2-trifluoromethoxy)phenylsulfonyl-8-piperazin-1-yl-quinoline;
8-Piperazin-1-yl-3-(3-trifluoromethyl)phenylsulfonylquinoline;
7-Chloro-3-phenylsulfonyl-8-piperazin-1-yl-quinoline;
6-Methyl-3-phenylsulfonyl-8-piperazin-1-yl-quinoline;
(*R*)-8-(3-Methyl)piperazin-1-yl-3-phenylsulfonylquinoline;
(*S*)-8-(3-Methyl)piperazin-1-yl-3-phenylsulfonylquinoline;
8-Homopiperazin-1-yl-3-phenylsulfonylquinoline;
8-((*S*)-2-Methyl-piperazin-1-yl)-3-phenylsulfonyl-quinoline;
8-(4-Ethyl-piperazin-1-yl)-3-phenylsulfonylquinoline;
8-Piperazin-1-yl-3-(toluene-2-sulfonyl)-quinoline;
3-(2-Methoxy-benzenesulfonyl)-8-piperazin-1-yl-quinoline;
8-Piperazin-1-yl-3-(toluene-4-sulfonyl)-quinoline;
3-(4-Fluoro-benzenesulfonyl)-8-piperazin-1-yl-quinoline;
3-(2-Trifluoromethyl-benzenesulfonyl)-8-piperazin-1-yl-quinoline;
8-(4-Methyl-piperazin-1-yl)-3-(toluene-2-sulfonyl)-quinoline;
3-(2-Methoxy-benzenesulfonyl)-8-(4-methyl-piperazin-1-yl)-quinoline;
8-(4-Methyl-piperazin-1-yl)-3-(toluene-4-sulfonyl)-quinoline;
3-(4-Fluoro-benzenesulfonyl)-8-(4-methyl-piperazin-1-yl)-quinoline;
3-(3-Fluoro-benzenesulfonyl)-8-(4-methyl-piperazin-1-yl)-quinoline;
3-(2-Fluoro-benzenesulfonyl)-8-(4-methyl-piperazin-1-yl)-quinoline;
3-(4-Chloro-benzenesulfonyl)-8-(4-methyl-piperazin-1-yl)-quinoline;
3-(3-Chloro-benzenesulfonyl)-8-(4-methyl-piperazin-1-yl)-quinoline;

3-(2-Trifluoromethyl-benzenesulfonyl)-8-(4-methyl-piperazin-1-yl)-quinoline;
8-((S)-3-Methyl-piperazin-1-yl)-3-(toluene-2-sulfonyl)-quinoline;
3-(2-Methoxy-benzenesulfonyl)-8-((S)-3-methyl-piperazin-1-yl)-quinoline;
8-((S)-3-Methyl-piperazin-1-yl)-3-(toluene-4-sulfonyl)-quinoline;
3-(4-Fluoro-benzenesulfonyl)-8-((S)-3-methyl-piperazin-1-yl)-quinoline;
3-(3-Fluoro-benzenesulfonyl)-8-((S)-3-methyl-piperazin-1-yl)-quinoline;
3-(2-Fluoro-benzenesulfonyl)-8-((S)-3-methyl-piperazin-1-yl)-quinoline;
3-(4-Chloro-benzenesulfonyl)-8-((S)-3-methyl-piperazin-1-yl)-quinoline;
3-(3-Chloro-benzenesulfonyl)-8-((S)-3-methyl-piperazin-1-yl)-quinoline;
3-(3-Trifluoromethyl-benzenesulfonyl)-8-((S)-3-methyl-piperazin-1-yl)-quinoline;
3-Benzenesulfonyl-8-((R)-2-methyl-piperazin-1-yl)-quinoline;
3-Benzenesulfonyl-8-((2R,5S)-2,5-dimethyl-piperazin-1-yl)-quinoline racemate;
3-Benzenesulfonyl-8-(3,3-dimethyl-piperazin-1-yl)-quinoline;
3-Benzenesulfonyl-8-(hexahydro-pyrrolo[1,2-*a*]pyrazin-2-yl)-quinoline racemate;
3-Benzenesulfonyl-8-(4-isopropyl-piperazin-1-yl)-quinoline;
3-Benzenesulfonyl-8-(4-isobutyl-piperazin-1-yl)-quinoline;
3-Benzenesulfonyl-8-[4-(2,2-dimethyl-propyl)-piperazin-1-yl]-quinoline;
3-Benzenesulfonyl-8-((R)-3,4-dimethyl-piperazin-1-yl)-quinoline;
3-Benzenesulfonyl-8-((S)-3,4-dimethyl-piperazin-1-yl)-quinoline;
3-Phenylsulfonyl 8-({*1S, 4S*} 2,5-diazabicycloheptan-2-yl) quinoline;
or a pharmaceutically acceptable salt thereof.

17. (Original) A compound of formula (I) according to claim 1 which is 3-phenylsulfonyl-8-piperazin-1-yl-quinoline or a pharmaceutically acceptable salt thereof.

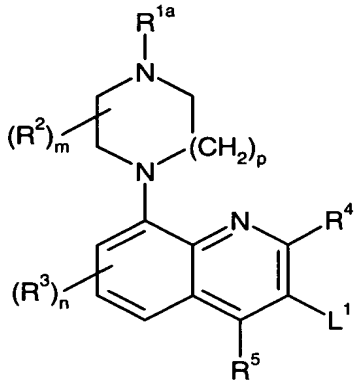
18. (Original) A compound of formula (I) according to claim 17 which is the free base of 3-phenylsulfonyl-8-piperazin-1-yl-quinoline.

19. (Original) A compound of formula (I) according to claim 18 which is 3-phenylsulfonyl-8-piperazin-1-yl-quinoline (Form I).

20. (Original) A compound of formula (I) according to claim 18 which is 3-phenylsulfonyl-8-piperazin-1-yl-quinoline (Form II).

21. (Amended) A process for the preparation of a compound of formula (I) as defined in claim 1 [any one of claims 1 to 20] or a pharmaceutically acceptable salt thereof, which comprises:

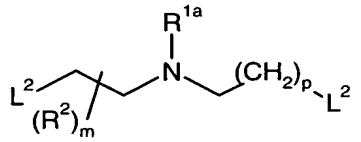
(a) reacting a compound of formula (II)



(II)

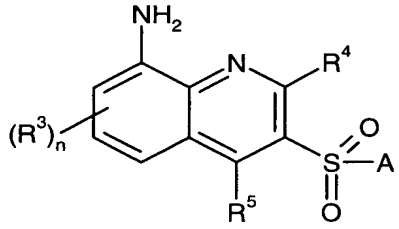
wherein R^{1a} is as defined for R^1 in claim 1 or an *N*-protecting group, R^2, R^3, R^4, R^5, m, n and p are as defined in claim 1 and L^1 is a leaving group;
with a compound of formula A-SO_2H, (or A-SH followed by a subsequent oxidation step) wherein A is as defined above and thereafter as necessary removing an R^{1a} *N*-protecting group; or

(b) reacting a compound of formula (IV)



(IV)

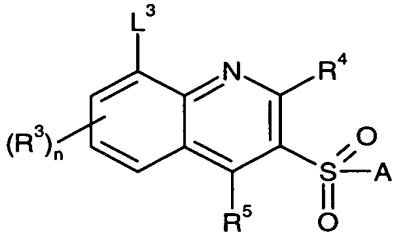
with a compound of formula (V)



(V)

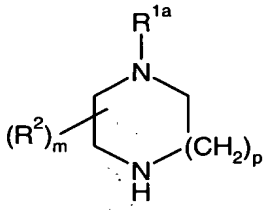
wherein R^{1a}, R^2, R^3, R^4, R^5, A, m, n and p are as defined in claim 1, and L^2 represents a suitable leaving group, and thereafter as necessary removing an R^{1a} *N*-protecting group; or

(c) reacting a compound of formula (VI)



(VI)

with a compound of formula (VII)



(VII)

wherein R^{1a}, R^2, R^3, R^4, R^5, m, n, p and A are as defined in claim 1 and L^3 represents a suitable leaving group, and thereafter as necessary removing an R^{1a} *N*-protecting group; or

(d) deprotecting a compound of formula (I) which is protected; and thereafter optionally

(e) interconversion to other compounds of formula (I) and/or forming a pharmaceutically acceptable salt and/or solvate.

22. (Amended) A pharmaceutical composition which comprises a compound according to claim 1 [any one of claims 1 to 20] and a pharmaceutically acceptable carrier or excipient.

23. (Amneded) A compound according to claim 1 [any one of claims 1 to 20] for use in therapy.

24. (Amended) A compound according to claim 1 [any one of claims 1 to 20] for use in the treatment of depression, anxiety, Alzheimers disease, age related cognitive decline, ADHD, obesity, mild cognitive impairment, schizophrenia, cognitive deficits in schizophrenia and stroke.

Claims 25 to 30 have been canceled.